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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,480	05/10/2005	Thomas Durbaum	DE 020261	7009
65913	7590	12/10/2007	EXAMINER	
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			PHAM, EMILY P	
			ART UNIT	PAPER NUMBER
			2838	
			NOTIFICATION DATE	DELIVERY MODE
			12/10/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/534,480

Applicant(s)

DURBAUM ET AL.

Examiner

Emily P. Pham

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/25/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed on 9/25/2007, with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the drawing must show the following features:

- feedback circuit and the integration of feedback circuit with additional current path; if correction is not made, the feature(s) must be canceled from the claims 1, 5, 6, 7, and 8.
- the integration of power converter with a buck converter, a boost converter, and a buck/boost converter ; if correction is not made, the feature(s) must be canceled from the claim 9.

No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use

thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

4. The disclosure is objected to because it does not provide any information about "feedback circuit" which is claimed in claims 1, and 5-8.

Appropriate correction is required.

5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. The cooperation of applicant is requested in correcting any error of which applicant may become aware of in the specification. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 5-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Mao (U.S. Patent 6,191,564).

8. Regarding independent claim 1:

Mao (**FIG 4**) discloses power converter comprising;

a current path that includes an inductor for receiving energy from a power supply (**FIG 4, 11, 36, iboost**), and an output capacitor for providing an output voltage (**FIG 4, 40**); an additional current path that can be opened and closed (**FIG 4, current path with switch 46**),

said additional current path is formed such that a current flowing through said additional current path reaches basically immediately a desired value, when said additional current path is opened (**column 4, lines 32-34**); and a feedback circuit that opens said additional current path (**FIG 4, 54, 56, 58**), when said output voltage across said output capacitor reaches a predetermined maximum value (**FIG 4, 42, 44**), wherein the inductor provides the energy from the power supply to a parallel arrangement of the output capacitor and the additional current path (**FIG 4, 40, 46**).

9. Regarding dependent claim 5:

Mao (**FIG 4**) discloses power converter, wherein feedback circuit opens additional current path for a predetermined time (**FIG 4, 46, 58**).

10. Regarding dependent claim 6:

Mao (**FIG 4**) discloses power converter, wherein feedback circuit closes the additional current path when a second predetermined output voltage is reached (**FIG 4, 46, 54**).

11. Regarding dependent claim 7:

Mao (**FIG 4**) discloses power converter, wherein feedback circuit controls additional current path based on said output voltage (**FIG 4, 46, 54, 4, 44**).

12. Regarding dependent claim 8:

Mao disclose a power converter, wherein said feedback circuit controls additional current path based on a current through said inductor (**FIG 4, 46, 56**).

13. Regarding dependent claim 9:

Mao (**FIG 4**) disclose a power converter that is one out of a group of a boost converter (**FIG 4, 36, 46, 38**).

14. Regarding independent claim 10:

During the normal operation of the apparatus disclosed in claims 1, 5-9, the method steps disclosed in claim 10 will be met.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mao (U.S. Patent 6,191,564) as applied to claim 1 above, and further in view of Ostrom (U.S. Patent 6,661,212).

Mao disclose the claimed invention except for additional current path comprising a controllable current source.

Ostrom teaches additional current path comprising a controllable current source **(FIG 7, 712)**.

Mao and Ostrom teach electrical converter apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Mao and Ostrom for the purpose of increasing the efficiency of regulating output voltage at fast load transients as Ostrom states in lines 56-67 of column 6.

17. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao (U.S. Patent 6,191,564) as applied to claim 1 above, and further in view of Hawkes et al. (U.S. Patent 6,181,120).

Mao disclose the claimed invention except for additional current path as a low impedance path comprising a resistor **(FIG 3, 122)**.

Mao and Hawkes et al. teach electrical converter apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Mao and Hawkes et al. for the purpose of increasing the efficiency of the converter.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Severinski et al. (U.S. Patent 4964029), Hwang et al. (U.S. 2002/0036486), and Zhou et al. (U.S. 2002/0057082).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily P. Pham whose telephone number is (571) 270-3046. The examiner can normally be reached on Mon-Thu (7:00AM - 6:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on (571) 272 - 2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dec. 2007

Emily P. Pham
Patent Examiner
AU 2838


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PRIMARY EXAMINER